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## Treatment Options

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## Small Intestine Cancer

### General Information

Note: Estimated new cases and deaths from small intestine cancer in the United States in 2005:<sup>[1]</sup>

- New cases: 5,420.
- Deaths: 1,070.

Adenocarcinoma, lymphoma, sarcoma, and carcinoid tumors account for the majority of small intestine malignancies which, as a whole, account for only 1% to 2% of all gastrointestinal malignancies.<sup>[2][3][4][5]</sup> As in other gastrointestinal malignancies, the predominant modality of treatment is surgery when resection is possible, and cure relates to the ability to completely resect the cancer. The overall 5-year survival rate for resectable adenocarcinoma is only 20%. The 5-year survival rate for resectable leiomyosarcoma, the most common primary sarcoma of the small intestine, is approximately 50%. Carcinoid tumors of the small intestine are covered elsewhere as a separate cancer entity (refer to the PDQ summary on [Gastrointestinal Carcinoid Tumor Treatment](#) for more information).

1. [American Cancer Society. Cancer Facts and Figures 2005.](#) Atlanta, Ga: American Cancer Society, 2005. Also available online. Last accessed May 20, 2005. [Related Entries](#)

## News

JCI table of contents:

November 23 2005

This release contains summaries, links to PDFs, and contact information for the following newsworthy papers to be published online 11/23/05 in ...

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[\[Full Story\]](#)

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2. Coit DG Cancer of the small intestine. In: DeVita VT Jr, Hellman S, Rosenberg SA, eds.: Cancer: Principles and Practice of Oncology. 6th ed. Philadelphia, Pa: Lippincott Williams & Wilkins, 2001., pp 1204-1215. [Related Entries](#)
3. Serour F, Dona G, Birkenfeld S, et al. Primary neoplasms of the small bowel. J Surg Oncol 49 (1): 29-34, 1992. [Related Entries](#)
4. Matsuo S, Eto T, Tsunoda T, et al. Small bowel tumors: an analysis of tumor-like lesions, benign and malignant neoplasms. Eur J Surg Oncol 20 (1): 47-51, 1994. [Related Entries](#)
5. Chow JS, Chen CC, Ahsan H, et al. A population-based study of the incidence of malignant small bowel tumours: SEER, 1973-1990. Int J Epidemiol 25 (4): 722-8, 1996. [Related Entries](#)

## Cellular Classification

Tumors that occur in the small intestine include:

- Adenocarcinoma (majority of cases).
- Lymphoma (uncommon), usually non-Hodgkin's type (refer to the PDQ summary on [Adult Non-Hodgkin's Lymphoma Treatment](#) for more information).
- Sarcoma (most commonly leiomyosarcoma and, more rarely, angiosarcoma or liposarcoma).
- Carcinoid (refer to the PDQ summary on [Gastrointestinal Carcinoid Tumor Treatment](#) for more information).
- Gastrointestinal stromal tumors (refer to the PDQ summary on [Adult Soft Tissue Sarcoma Treatment](#) for more information).

The majority of malignant neoplasms of the small intestine are adenocarcinomas (50% or more) and are more commonly located in the duodenum and jejunum than in the ileum.<sup>[1]</sup> Small intestine carcinomas may occur synchronously or metachronously at multiple sites.

Leiomyosarcomas occur most often in the ileum.

Some 20% of malignant lesions of the small intestine are carcinoid tumors, which occur more frequently in the ileum than in the duodenum or jejunum and may be multiple.

It is uncommon to find malignant lymphoma as a solitary small intestine lesion.

1. Small intestine. In American Joint Committee on Cancer.: AJ CC Cancer Staging Manual. 6th ed. New York, NY: Springer, 2002., pp 107-112. [Related Entries](#)

## Stage Information

The treatment sections of this summary are organized according to histopathologic type rather than stage.

The American Joint Committee on Cancer (AJCC) has designated staging by TNM classification.<sup>[1]</sup>

## TNM definitions

### Primary Tumor (T)

- TX: Primary tumor cannot be assessed
- T0: No evidence of primary tumor
- Tis: Carcinoma in situ
- T1: Tumor invades lamina propria or submucosa
- T2: Tumor invades muscularis propria
- T3: Tumor invades through the muscularis propria into the subserosa or into the nonperitonealized perimuscular tissue (mesentery or retroperitoneum) with extension 2 cm or less\*
- T4: Tumor perforates the visceral peritoneum or directly invades other organs or structures (includes other loops of the small intestine, mesentery, or retroperitoneum more than 2 cm, and the abdominal wall by way of the serosa; for the duodenum only, includes invasion of the pancreas)

\*The nonperitonealized perimuscular tissue is, for the jejunum and ileum, part of the mesentery and, for the duodenum in areas where serosa is lacking, part of the retroperitoneum.

### Regional lymph nodes (N)

- NX: Regional lymph nodes cannot be assessed
- N0: No regional lymph node metastasis
- N1: Regional lymph node metastasis

### Distant metastasis (M)

- MX: Distant metastasis cannot be assessed
- M0: No distant metastasis
- M1: Distant metastasis

## AJCC stage groupings

### Stage 0

- Tis, N0, M0

### Stage I

- T1, N0, M0
- T2, N0, M0

### Stage II

- T3, N0, M0
- T4, N0, M0

## Stage III

- Any T, N1, M0

## Stage IV

- Any T, any N, M1

1. Small intestine. In American Joint Committee on Cancer.: AJ CC Cancer Staging Manual. 6th ed. New York, NY: Springer, 2002., pp 107-112. Related Entries

## Treatment Option Overview

The designations in PDQ that treatments are "standard" or "under clinical evaluation" are not to be used as a basis for reimbursement determinations.

## Small Intestine Adenocarcinoma

### Standard treatment options:

1. For resectable primary disease:
  - o Radical surgical resection.<sup>[1][2]</sup>
2. For unresectable primary disease:
  - o Surgical bypass of obstructing lesion.
  - o Palliative radiation therapy.

### Treatment options under clinical evaluation:

1. For unresectable primary disease:
  - o Clinical trials evaluating methods to improve local control, such as the use of radiation therapy with radiosensitizers with or without systemic chemotherapy.
2. For unresectable metastatic disease:
  - o Clinical trials evaluating the value of new anticancer drugs and biologicals (phase I and II studies).

Information about ongoing clinical trials is available from the NCI Web site.

1. Rose DM, Hochwald SN, Klimstra DS, et al. Primary duodenal adenocarcinoma: a ten-year experience with 79 patients. J Am Coll Surg 183 (2): 89-96, 1996. Related Entries
2. North JH, Pack MS Malignant tumors of the small intestine: a review of 144 cases. Am Surg 66 (1): 46-51, 2000. Related Entries

## Small Intestine Leiomyosarcoma

**Standard treatment options:**

1. For resectable primary disease:
  - Radical surgical resection.
2. For unresectable primary disease:
  - Surgical bypass of obstructing lesion and radiation therapy.
3. For unresectable metastatic disease:
  - Palliative surgery.
  - Palliative radiation therapy.
  - Palliative chemotherapy.

**Treatment options under clinical evaluation:**

- For unresectable primary or metastatic disease:
  - Clinical trials evaluating the value of new anticancer drugs and biologicals.

Information about ongoing clinical trials is available from the NCI Web site.

## **Recurrent Small Intestine Cancer**

**Standard treatment options:**

1. For metastatic adenocarcinoma or leiomyosarcoma:
  - There is no standard effective chemotherapy for patients with recurrent metastatic adenocarcinoma or leiomyosarcoma of the small intestine. All such patients should be considered candidates for clinical trials evaluating the use of new anticancer drugs or biologicals in phase I and II trials.
2. For locally recurrent disease:
  - Surgery.
  - Palliative radiation therapy.
  - Palliative chemotherapy.
  - Clinical trials evaluating ways of improving local control, such as the use of radiation therapy with radiosensitizers with or without systemic chemotherapy.

Information about ongoing clinical trials is available from the NCI Web site.

## **Changes to This Summary (02/14/2005)**

The PDQ cancer information summaries are reviewed regularly and updated as new information becomes available. This section describes the latest changes made to this summary as of the date above.

**General Information**

Updated statistics with estimated new cases and deaths for 2005 (cited American Cancer Society).

**Small Intestine Adenocarcinoma**

Added North et al. as reference 2.

## More Information

**About PDQ**

- [PDQ® - NCI's Comprehensive Cancer Database.](#)
  - Full description of the NCI PDQ database.

**Additional PDQ Summaries**

- [PDQ® Cancer Information Summaries: Adult Treatment](#)
  - Treatment options for adult cancers.
- [PDQ® Cancer Information Summaries: Pediatric Treatment](#)
  - Treatment options for childhood cancers.
- [PDQ® Cancer Information Summaries: Supportive Care](#)
  - Side effects of cancer treatment, management of cancer-related complications and pain, and psychosocial concerns.
- [PDQ® Cancer Information Summaries: Screening/Detection \(Testing for Cancer\)](#)
  - Tests or procedures that detect specific types of cancer.
- [PDQ® Cancer Information Summaries: Prevention](#)
  - Risk factors and methods to increase chances of preventing specific types of cancer.
- [PDQ® Cancer Information Summaries: Genetics](#)
  - Genetics of specific cancers and inherited cancer syndromes, and ethical, legal, and social concerns.
- [PDQ® Cancer Information Summaries: Complementary and Alternative Medicine](#)
  - Information about complementary and alternative forms of treatment for patients with cancer.

**Important:**

This information is intended mainly for use by doctors and other health care professionals. If you have questions about this topic, you can ask your doctor, or call the Cancer Information Service at **1-800-4-CANCER (1-800-422-6237)**.

This document was last modified on: **02/14/2005**

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